

Claims

We claim:

1. A monitoring system that monitors physiological data of a wearer that includes a central monitoring unit and a remote monitoring unit, said remote monitoring unit comprising:

- a microprocessor that compares collected real time physiological data with stored base-line physiological data to determine the existence of a medical condition of a wearer;

- a memory including instructions for collecting and storing said real time and base-line physiological data relating to a health condition of a wearer;

- a display connected to said microprocessor for displaying instructions for use of the remote monitoring unit;

- at least one sensor connected to said microprocessor that periodically samples said physiological data;

- at least one medication storage compartment for storing a medication to be administered in response to a medical condition;

- an injection device connected to said at least one medication storage for delivering an injection of said medication to the wearer when the medical condition is detected; and,

- a communications device that transmits collected physiological data from the remote monitoring unit to the central monitoring unit.

2. The monitoring system of claim 1 further comprising a global positioning system receiver that detects a location of the remote monitoring unit, such that said location of the remote monitoring unit may be relayed to the central monitoring unit.
3. The monitoring system of claim 1 wherein said communications device includes a speaker and microphone for providing audio communications between the wearer and an operator located at the central monitoring unit.
4. The monitoring system of claim 1 wherein said communications device includes a speaker, microphone and camera for providing audio and video communications between the wearer and an operator located at the central monitoring unit.
5. The monitoring system of claim 1 further comprising a needle compartment for housing said injection device and including an antiseptic film having a side exposed to the injection device and an opposite side exposed to a surface of a wearer's skin such that a needle included in said injection device penetrates and punctures said antiseptic film when the medication is administered.
6. The monitoring system of claim 1 wherein said injection device includes a solenoid for remotely administering the medication.

7. The monitoring system of claim 1 wherein said injection device includes a piezoelectric member for driving the injection device.
8. The monitoring system of claim 1 wherein said injection device includes a magnetostrictive member for driving the injection device.
9. The monitoring system of claim 1 wherein said medication storage compartment comprises a hinged cover.
10. The monitoring system of claim 1 wherein said remote monitoring unit comprises a speaker that alerts nearby individuals to a medical condition of a wearer when the wearer is unconscious.
11. The monitoring system of claim 1 further comprising a re-transmitter unit that relays information and data between the remote monitoring unit and the central monitoring unit.
12. A medical condition monitoring system that includes a central monitoring unit and a plurality of remote monitoring units, said system comprising:
 - the central monitoring unit that includes a transceiver for communicating with the remote monitoring unit;
 - a microprocessor within the central monitoring unit for storing physiological data of a plurality of wearers and for comparing collected real time

physiological data with stored base-line physiological data to determine the existence of a medical condition;

a display screen connected to said central monitoring unit for displaying information from a selected remote monitoring unit;

a microprocessor located within each remote monitoring unit for comparing collected real time physiological data with stored base-line physiological data to determine the existence of a medical condition of a wearer;

a memory within each remote monitoring unit including instructions for collecting and storing said real time and base-line physiological data relating to a health condition of a wearer;

a display connected to said microprocessor located within each remote monitoring unit for displaying instructions for use of the remote monitoring unit;

at least one sensor located within each remote monitoring unit and connected to said microprocessor for periodically sampling physiological data of a wearer;

at least one medication storage compartment located within each remote monitoring unit for storing a medication to be administered in response to a detected medical condition;

an injection device located within each remote monitoring unit and connected to said at least one medication storage for delivering an injection of said medication to the wearer when the medical condition is detected; and,

a communication device located within each remote monitoring unit that transmits collected physiological data from the remote monitoring unit to the central monitoring unit.

13. A process for monitoring a wearer of a health monitoring device comprising:

- collecting data during normal activities and when a wearer is not experiencing a serious medical condition;
- storing said data as base-line data;
- collecting and comparing real time data with said base-line data;
- recognizing the existence of a medical condition when said real time data exceeds an acceptable threshold; and,
- administering an injection of medication when said medical condition is recognized.

14. The process of claim 13 further comprising:

- confirming consciousness with said wearer to determine whether an injection should be automatically administered.

15. The process of claim 13 further comprising:

- providing a list of medical instructions to said wearer.

16. The process of claim 13 further comprising alerting medical authorities when a medical condition has been determined.